

***Morellia dendropanacis*, a new species, and other species with
spotted wings: characterization and comparison
(Diptera: Muscidae: Muscinae)**

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Abstract.—The description of a new species of *Morellia* Robineau-Desvoidy (1830) (Diptera, Muscidae, Muscinae) with spotted wings, morphologically similar to *M. couriae* Pamplona and *M. maculipennis* (Macquart), is given and compared with other Neotropical species with spotted wings.

Among the 18 Neotropical *Morellia* species, 13 have spotted wings. Some species have conspicuous markings, others have faint markings. The latter includes *M. affinis* Malloch, with a spot on the apex of Sc and *M. concacata* Pamplona, *M. ochricornis* (Wiedemann), *M. roppai* Pamplona and *M. sinopensis* Pamplona with a spot on the humeral crossvein. As the spots are almost imperceptible in these species, identification using Pamplona's key (1986) (couplet 3) requires careful comparison of the wing with the figures. The remaining eight species, *M. couriae* Pamplona, *M. humeralis* (Stein), *M. lopesae* Pamplona, *M. maculipennis* (Macquart), *M. nigricosta* Hough, *M. semimarginata* (Stein), *M. xanthoptera* Pamplona and *M. dendropanacis*, new species have conspicuous spots, facilitating their identification.

The new species described here was collected among flies that were pollinating *Dendropanax cuneatum* (Araliaceae) (Pombal & Morellato 1995). According to these authors *M. humeralis* and *M. dendropanacis* were the main pollinators of this plant, being specially observed from 10am until 1pm, in groups of up to 24 on an inflorescence. Pombal & Morellato considered them to be effective pollinators due to their small size, the high frequency of visitations, their

visiting behavior and the large number of flies.

Morellia dendropanacis, new species
Figs. 1–11

Type material.—Holotype ♂ [MNRJ], labeled: Faz. Sta. Genebra [Fazenda Santa Genebra]/Campinas-SP [São Paulo]/03/VII/1992/Pombal, E.C.P. On the underface of the label: coletado em *Dendropanax cuneatum* [collected on *D. cuneatum*]; "HOLOTIPO" [red label]. Left mid- and hindlegs broken; the abdomen is dissected and preserved in glycerin in a microvial that is attached to the pin. Paratypes: 1 ♂, 4 ♀ [MNRJ] with same label data as the holotype: "PARATYPE" [green label]. All in good condition; male paratype with right hindleg glued on label, abdomen broken; one female paratype dissected and preserved in glycerin in microvial.

Diagnosis.—Wings with cloudlike spots on humeral crossvein, basal radial cell, subcostal apex, cell r_1 apex and crossveins r-m and dm-cu; hindtibia of ♂, at anteroventral, ventral and posteroventral surfaces with many bristles at apical half.

Coloration.—Metallic black-bluish with a faint whitish pruinescence on mesonotum near the head. Frons, lower half of parafa-

cial and lower half of face with whitish pruinescence, upper half of fronto-orbital plate and gena blackish shining. Lower half of fronto-orbital shining yellowish; pedicel and flagellum yellow-brownish; arista with basal half yellow and apical half black; proboscis brown and palpus yellow. Wing with spots on humeral crossvein, on the adjacent area of basal radial cell, on subcostal apex connected to a spot on r-m, on the apex of r_1 cell and on dm-cu (Fig. 1). Calypteres faint brownish. Halter white. Legs brown, with femur-tibial articulations yellowish. Both spiracles white.

Male: Length; body, 4.5–5.0 mm; wing, 4.5–5.0 mm

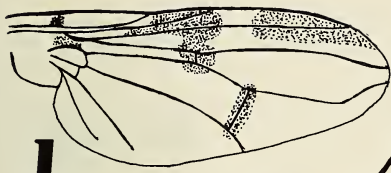
Head.—Eyes bare with divergent margins larger at vertex; distance between eyes at anterior ocellus level about 6–7 times less than head width; anterior-inner ommatidia larger than others. 11–13 frontal bristles. Antenna inserted below mid eye level, with flagellum about 2.2–2.4 the pedicel. Arista plumose with 11–14 hairs. Palpi a little enlarged apicad with about 10–14 setae along margin.

Thorax.—Dc 0:2; Acr 0:1; 3 humeral bristles; posthumeral absent; one prs; one ia; one pra; 3 sa; 2 psa; ipal absent. Notopleuron with 2 bristles. Scutellum with 1 pair of basal bristles; 2 pairs of laterals; 1 pair of apical. Prosternum wide and bare (with anterior pubescence difficult to observe). Several proepisternal and proepimeral bristles. Propleuron bare. Anterior spiracle vertical, oblong. Anepisternum covered with long setae and with 11–13 bristles on the posterior border. Ctps 1:2, supraposterior one, much larger than others. Anepimeron setulose. Lower calypter about 2.3–2.4 times the upper. Wing with M_1 curved to R_{4+5} apicad; veins bare. Fore-

leg with femur at anterior surface bare; posteroventral and posterodorsal surfaces with a row of bristles. Tibia at dorsal surface with a row of setulae; posterodorsal surface with 1 preapical bristle; ventral surface with several setae on apical half. Tarsomeres with short setae. Midfemur bearing some weak bristles along apical half of ventral surface; dorsal surface with 3 apical small spurs. Tibia at ventral surface with two apical bristles. Tarsomeres as in foreleg. Hindleg with femur at anterodorsal and anteroventral surfaces with a row of weak and short bristles; posterior surface bare. Tibia at anteroventral surface with 4 bristles on apical third, ventral to anteroventral surface with 5 larger parallel bristles; ventral to posteroventral surfaces with several setae on apical half; anterodorsal surface with 3 bristles on middle third; dorsal surface with a row of very small bristles. Tarsomeres as in foreleg.

Abdomen.—With few bristles on laterally areas of segments. Sternite V as in Fig. 2. Terminalia: Cercal plate small, with a ventral plate with 2 lateral projections with spines along inner margin (Figs. 3 and 5); surstylus with an apical projection (Fig. 4); hypandrium large (Fig. 6); aedeagal apodeme with many spines in center, gonostylus membranous with small bristles, gonocoxite with a strong bristle; paramere with long bristles at apex (Figs. 7–8).

Female: Length; body, 4.5–5.0 mm; wing, 4.5–5.0 mm. Similar to male except as follows: 4 fronto-orbitals, 2 proclinate and 2 latero-clinate. All ommatidia of same size. Distance between eyes at anterior ocellus level about 2.7–2.8 times smaller than head width. Midfemur, at dorsal surface without spurs; hindtibia at anteroventral and posterodorsal surfaces with respectively 2 and 1 bristles on apical half. Terminalia: Ovi-



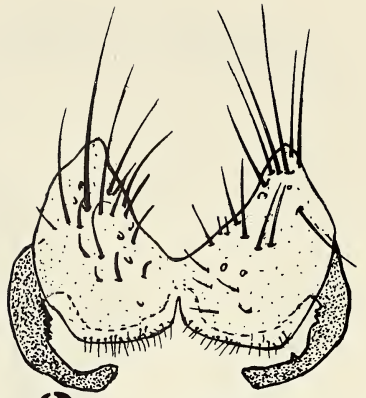
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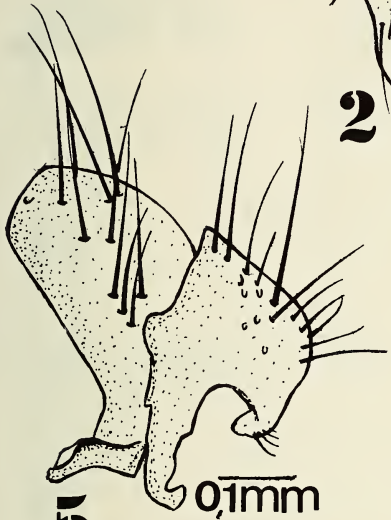
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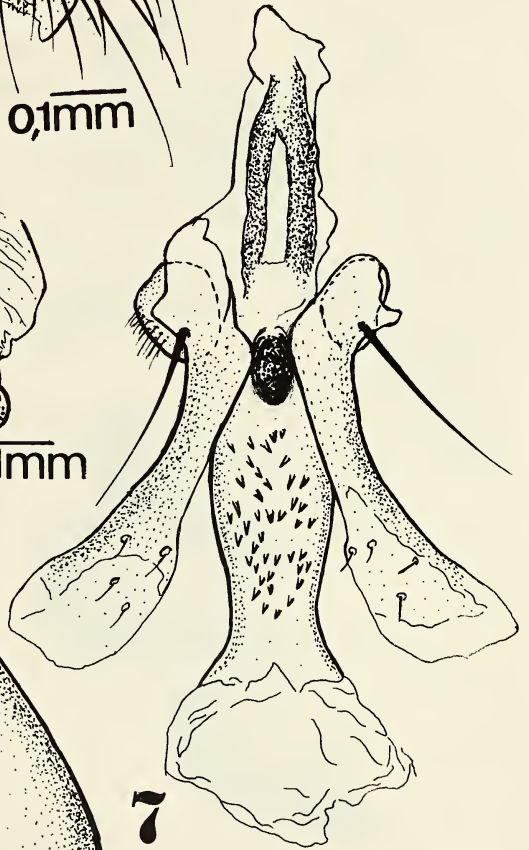
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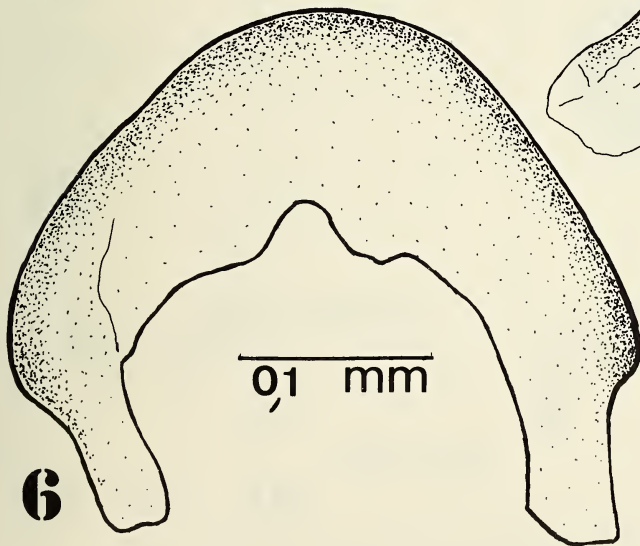
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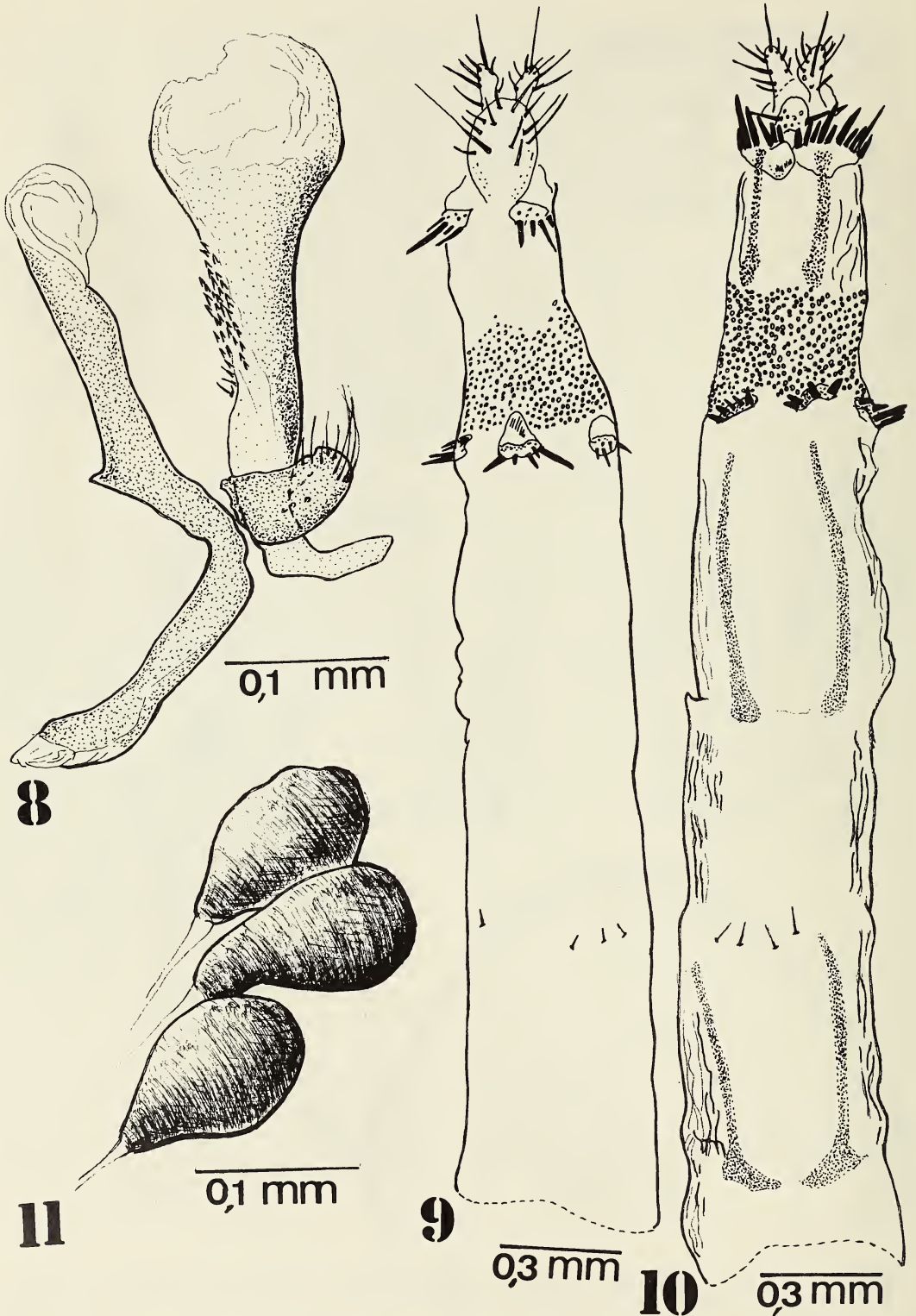
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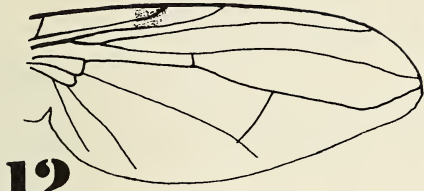


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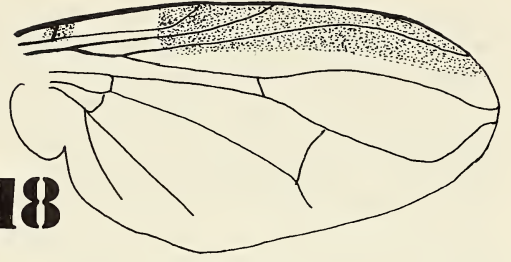
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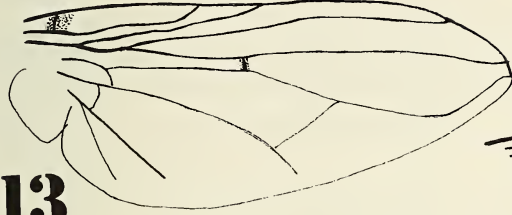
Figs. 8-11. *Morellia dendropanicus*. 8, aedeagus, holotype, lateral view; 9, ovipositor, paratype ♀, dorsal view; 10, ovipositor, paratype ♀, ventral view; 11, spermathecae, paratype ♀.



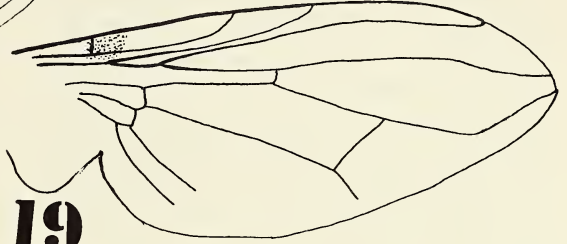
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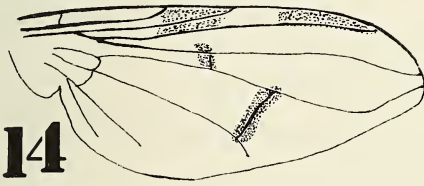
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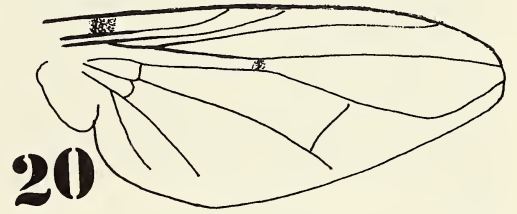
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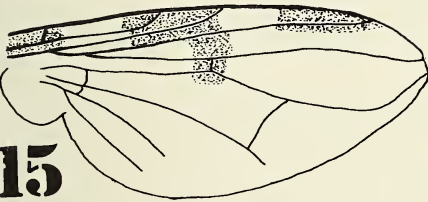
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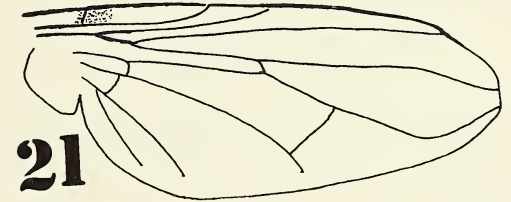
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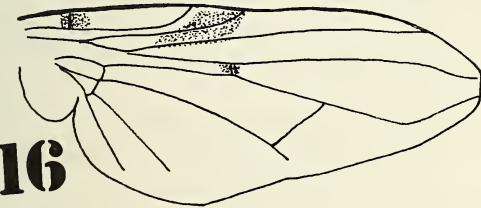
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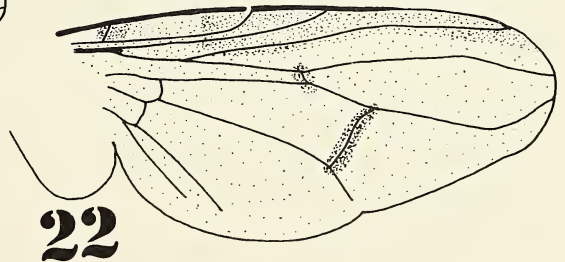
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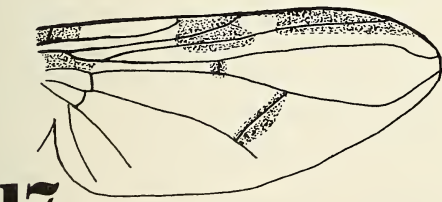
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16



22



17

2 mm

Figs. 12–22. Wings of species of *Morellia*: 12, *M. affinis*; 13, *M. concacata*; 14, *M. couriaei*; 15, *M. humeralis*; 16, *M. lopesi*; 17, *M. maculipennis*; 18, *M. nigricosta*; 19, *M. ochricornis*; 20, *M. roppai*; 21, *M. sinopensis*; 22, *M. xanthoptera*.

positor long; tergite VI enlarged at base, tergites VII and VIII elongate; series of strong spines at sclerites above tergite VII and tergite VIII; cercus longer than epiproct (Fig. 8); sternite VII and VIII with 4 strong spines each (Fig. 9); spermathecae pear-shaped.

Etymology.—The specific adjectival name *dendropanacis* refers to the plant *Dendropanax cuneatum* where the specimens were collected.

Comments.—The wing maculation of *M. dendropanacis* n. sp. is similar to that of *M. couriae* and *M. maculipennis*. It differs from *M. couriae* mainly by the presence of a spot on the humeral crossvein and another one adjacent to it on the basal radial cell. The new species differs from *M. maculipennis* in having the cloudlike spot on the Sc apex connected to the one of r-m crossvein. Although the new species can easily be distinguished from these two species by the number of frontal bristles, chaetotaxy of hindtibia and hind spiracle shape and ciliation, the similarity of the male terminalia of these three species suggests a close relation among them.

Distribution: Brazil. São Paulo.

Key to Species of *Morellia* with Spotted Wings

Most species of *Morellia* with spotted wings can be easily distinguished by the distribution of the spots in association with other characters of chaetotaxy legs and thorax. The following key is to aid in their identification:

1. Wing with no more than 2 faint small spots (Figs. 12, 13, 19–21) 2
 - Wing with at least 2 conspicuous spots (Figs. 1, 14–18, 22) 7
2. Flagellum yellow
 - *M. ochricornis* (Wiedemann)
 - Flagellum brown 3
3. Prosternum haired 4
 - Prosternum bare 5
4. Hindtibia at anterodorsal surface with 4 bristles from the base to the

- apex and at posterodorsal surface with 1 bristle on basal third
 - *M. affinis* Malloch
- Hindtibia at anterodorsal surface with 2 bristles on apical half and at posterodorsal surface with 1 bristle on apical third
 - *M. concacata* Pamplona
- 5. Dc 1:2; hindtibia at posteroventral with 6 bristles *M. roppai* Pamplona
- Dc 0:2; hindtibia at posteroventral without bristles
 - *M. sinopensis* Pamplona
- 6. Wing brown from base to apex along costa and connected with a dark cloud over the r-m
 - *M. semimarginata* (Stein)
 - Wing not as above 7
- 7. Postpronotum yellow
 - *M. humeralis* (Stein)
 - Postpronotum background colored 8
- 8. dm-cu crossvein without spot (Figs. 16, 18) 9
 - dm-cu crossvein spotted (Figs. 1, 14, 17, 22) 10
- 9. Wing with a long cloudlike spot from a little before Sc apex till wing apex (Fig. 18) *M. nigricosta* Hough
 - Wing without the above cited cloud (Fig. 16) *M. lopesae* Pamplona
- 10. Cell r_1 with 1 spot (Fig. 22)
 - *M. xanthoptera* Pamplona
 - Cell r_1 with 2 spots (Figs. 1, 14, 17) 11
- 11. Dc 1:2; prosternum haired
 - *M. maculipennis* (Macquart)
 - Dc 0:2; prosternum bare 12
- 12. Flagellum brownish yellow with yellow spot at the base; hindfemur at anteroventral surface with weak and short bristles only on apical third; male: anteroventral, ventral and posteroventral surfaces with few setae on apical half
 - *M. couriae* Pamplona
 - Flagellum brownish yellow without yellow spot at the base; hind-

femur at anteroventral surface with weak and short bristles from base to apex; male: anteroventral, ventral and posteroventral surfaces with a great number of setae on apical half . . . *Morellia dendropanacis*

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